CLAIMS

What is claimed is:

1. An apparatus for adjusting power levels of optical signals, the apparatus comprising:

a polarization diversity module configured to receive an input optical signal and output a first optical output signal and a second optical output signal, the first and second optical output signals having a same polarization state; and

a light modulator configured to receive at least the first optical output signal.

2. The apparatus of claim 1 further comprising:

a collimator configured to direct the optical input signal to a component of the polarization diversity module.

3. The apparatus of claim 1 wherein the polarization diversity module further comprises:

a bi-refringent crystal; and

a polarization rotator configured to change a polarization state of an optical output signal of the bi-refringent crystal such that the first and second optical output signals of the polarization diversity module have the same polarization state.

4. The apparatus of claim 3 wherein the polarization rotator comprises a half-wave plate.

5. The apparatus of claim 3 wherein the bi-refringent crystal comprises a yttrium vanadate (YVO_4) crystal.

6. The apparatus of claim 1 wherein the light modulator comprises a grating light valve.

7. The apparatus of claim 1 wherein the light modulator comprises a micro electromechanical system (MEMS) component.

8. The apparatus of claim 7 wherein the MEMS component comprises an array of deflectable ribbon structures configured to reflect or diffract incident light.

9. The apparatus of claim 1 further comprising a diffraction grating coupled along an optical path between the polarization diversity module and the light modulator.

10. The apparatus of claim 9 further comprising a transform lens coupled along an optical path between the diffraction grating and the light modulator.

11. A method of mitigating an effect of polarization-dependent loss in an optical device, the method comprising:

spatially separating an input light beam into a first output light beam and a second output light beam;

rotating a polarization state of the first output light beam such that the first output light beam and the second output light beam have a same polarization state; and

impinging at least the first output light beam on a light modulator.

12. The method of claim 11 further comprising:

collimating the input light beam prior to spatially separating the input light beam.

13. The method of claim 11 further comprising:

diffracting at least the first output light beam towards the light modulator.

14. The method of claim 11 further comprising:

passing at least the first output light beam through a transform lens.

15. The method of claim 11 wherein the light modulator comprises a grating light valve.

16. The method of claim 11 wherein spatially separating the input light beam comprises passing the input light beam through a bi-refringent crystal.